

## SEQUENCE LISTING

<110> Roelvink, Petrus W  
 Kovesdi, Imre  
 Wickham, Thomas J

<120> ADENOVIRAL CAPSID CONTAINING CHIMERIC PROTEIN IX

<130> 208859

<140> US

<141> 2001-02-09

<150> US 60/181,163

<151> 2000-02-09

<160> 13

<170> PatentIn Ver. 2.1

<210> 1

<211> 144

<212> PRT

<213> Adenovirus

<400> 1

Met Asn Gly Thr Thr Gln Asn Asn Ala Ala Leu Phe Asp Gly Gly Val  
 1 5 10 15

Phe Ser Pro Tyr Leu Thr Ser Arg Leu Pro Tyr Trp Ala Gly Val Arg  
 20 25 30

Gln Asn Val Val Gly Ser Thr Val Asp Gly Arg Pro Val Ala Pro Ala  
 35 40 45

Asn Ser Ser Thr Leu Thr Tyr Ala Thr Ile Gly Pro Ser Pro Leu Asp  
 50 55 60

Thr Ala Ala Ala Ala Ala Ala Ser Ala Ala Ala Ser Thr Ala Arg Ser  
 65 70 75 80

Met Ala Ala Asp Phe Ser Phe Tyr Asn His Leu Ala Ser Asn Ala Val  
 85 90 95

Thr Arg Thr Ala Val Arg Glu Asp Ile Leu Thr Val Met Leu Ala Lys  
 100 105 110

Leu Glu Thr Leu Thr Ala Gln Leu Glu Glu Leu Ser Gln Lys Val Glu  
 115 120 125

Glu Leu Ala Asp Ala Thr Thr His Thr Pro Ala Gln Pro Val Thr Gln  
 130 135 140

<210> 2  
 <211> 125  
 <212> PRT  
 <213> Adenovirus

<400> 2  
 Met Ala Glu Glu Gly Arg Ile Tyr Val Pro Tyr Val Thr Ala Arg Leu  
     1                    5                    10                    15  
 Pro Lys Trp Ser Gly Ser Val Gln Asp Lys Thr Gly Ser Asn Met Leu  
                     20                    25                    30  
 Gly Gly Val Val Leu Pro Pro Asn Ser Gln Ala His Arg Thr Glu Thr  
             35                    40                    45  
 Val Gly Thr Glu Ala Thr Arg Asp Asn Leu His Ala Glu Gly Ala Arg  
             50                    55                    60  
 Arg Pro Glu Asp Gln Thr Pro Tyr Met Ile Leu Val Glu Asp Ser Leu  
     65                    70                    75                    80  
 Gly Gly Leu Lys Arg Arg Met Asp Leu Leu Glu Glu Ser Asn Gln Gln  
                     85                    90                    95  
 Leu Leu Ala Thr Leu Asn Arg Leu Arg Thr Gly Leu Ala Ala Tyr Val  
                     100                    105                    110  
 Gln Ala Asn Leu Val Gly Gly Gln Val Asn Pro Phe Val  
             115                    120                    125

<210> 3  
 <211> 125  
 <212> PRT  
 <213> Adenovirus

<400> 3  
 Met Ala Glu Glu Gly Arg Ile Tyr Val Pro Tyr Val Thr Ala Arg Leu  
     1                    5                    10                    15  
 Pro Lys Trp Ser Gly Ser Val Gln Asp Lys Thr Gly Ser Asn Met Leu  
                     20                    25                    30  
 Gly Gly Val Val Leu Pro Pro Asn Ser Gln Ala His Arg Thr Glu Thr  
             35                    40                    45  
 Val Gly Thr Glu Ala Thr Arg Asp Asn Leu His Ala Glu Gly Ala Arg  
             50                    55                    60  
 Arg Pro Glu Asp Gln Thr Pro Tyr Met Ile Leu Val Glu Asp Ser Leu  
     65                    70                    75                    80  
 Gly Gly Leu Lys Arg Arg Met Asp Leu Leu Glu Glu Ser Asn Gln Gln  
                     85                    90                    95  
 Leu Leu Ala Thr Leu Asn Arg Leu Arg Thr Gly Leu Ala Ala Tyr Val  
                     100                    105                    110

Gln Ala Asn Leu Val Gly Gly Gln Val Asn Pro Phe Val  
 115 120 125

<210> 4

<211> 140

<212> PRT

<213> Adenovirus

<400> 4

Met Ser Ala Asn Ser Phe Asp Gly Ser Ile Val Ser Ser Tyr Leu Thr  
 1 5 10 15

Thr Arg Met Pro Pro Trp Ala Gly Val Arg Gln Asn Val Met Gly Ser  
 20 25 30

Ser Ile Asp Gly Arg Pro Val Leu Pro Ala Asn Ser Thr Thr Leu Thr  
 35 40 45

Tyr Glu Thr Val Ser Gly Thr Pro Leu Glu Thr Ala Ala Ser Ala Ala  
 50 55 60

Ala Ser Ala Ala Ala Ala Thr Ala Arg Gly Ile Val Thr Asp Phe Ala  
 65 70 75 80

Phe Leu Ser Pro Leu Ala Ser Ser Ala Ala Ser Arg Ser Ser Ala Arg  
 85 90 95

Asp Asp Lys Leu Thr Ala Leu Leu Ala Gln Leu Asp Ser Leu Thr Arg  
 100 105 110

Glu Leu Asn Val Val Ser Gln Gln Leu Leu Asp Leu Arg Gln Gln Val  
 115 120 125

Ser Ala Leu Lys Ala Ser Ser Pro Pro Asn Ala Val  
 130 135 140

<210> 5

<211> 140

<212> PRT

<213> Adenovirus

<400> 5

Met Ser Thr Asn Ser Phe Asp Gly Ser Ile Val Ser Ser Tyr Leu Thr  
 1 5 10 15

Thr Arg Met Pro Pro Trp Ala Gly Val Arg Gln Asn Val Met Gly Ser  
 20 25 30

Ser Ile Asp Gly Arg Pro Val Leu Pro Ala Asn Ser Thr Thr Leu Thr  
 35 40 45

Tyr Glu Thr Val Ser Gly Thr Pro Leu Glu Thr Ala Ala Ser Ala Ala  
 50 55 60

Ala Ser Ala Ala Ala Ala Thr Ala Arg Gly Ile Val Thr Asp Phe Ala  
 65 70 75 80

Phe Leu Ser Pro Leu Ala Ser Ser Ala Ala Ser Arg Ser Ser Ala Arg  
85 90 95

Asp Asp Lys Leu Thr Ala Leu Leu Ala Gln Leu Asp Ser Leu Thr Arg  
100 105 110

Glu Leu Asn Val Val Ser Gln Gln Leu Leu Asp Leu Arg Gln Gln Val  
115 120 125

Ser Ala Leu Lys Ala Ser Ser Pro Pro Asn Ala Val  
130 135 140

<210> 6

<211> 132

<212> PRT

<213> Adenovirus

<400> 6

Met Ser Gly Phe Thr Glu Gly Asn Ala Val Ser Phe Glu Gly Gly Val  
1 5 10 15

Phe Ser Pro Tyr Leu Thr Thr Arg Leu Pro Ser Trp Ala Gly Val Arg  
20 25 30

Gln Asn Val Val Gly Ser Asn Val Asp Gly Arg Pro Val Ala Pro Ala  
35 40 45

Asn Ser Thr Thr Leu Thr Tyr Ala Thr Ile Gly Ser Ser Val Asp Thr  
50 55 60

Ala Ala Ala Ala Ala Ala Ser Ala Ala Ala Ser Thr Ala Arg Gly Met  
65 70 75 80

Ala Ala Asp Phe Gly Leu Tyr Asn Gln Leu Ala Ala Ser Arg Leu Arg  
85 90 95

Glu Glu Asp Ala Leu Ser Val Val Leu Thr Arg Leu Glu Glu Leu Ser  
100 105 110

Gln Gln Leu Gln Asp Met Ser Ala Lys Met Ala Leu Leu Asn Pro Pro  
115 120 125

Ala Asn Thr Ser  
130

<210> 7

<211> 133

<212> PRT

<213> Adenovirus

<400> 7

Met Ser Gly Ser Met Glu Gly Asn Ala Val Ser Phe Lys Gly Gly Val  
1 5 10 15

Phe Ser Pro Tyr Leu Thr Thr Arg Leu Pro Ala Trp Ala Gly Val Arg  
20 25 30

Gln Asn Val Met Gly Ser Asn Val Asp Gly Arg Pro Val Ala Pro Ala  
                   35                                  40                                  45

Asn Ser Ala Thr Leu Thr Tyr Ala Thr Val Gly Ser Ser Val Asp Thr  
                   50                                  55                                  60

Ala Ala Ala Ala Ala Ala Ser Ala Ala Ala Ser Thr Ala Arg Gly Met  
                   65                                  70                                  75                                  80

Ala Ala Asp Phe Gly Leu Tyr Asn Gln Leu Ala Ala Ser Arg Ser Leu  
                                   85                                  90                                  95

Arg Glu Glu Asp Ala Leu Ser Val Val Leu Thr Arg Met Glu Glu Leu  
                                   100                                  105                                  110

Ser Gln Gln Leu Gln Asp Leu Phe Ala Lys Val Ala Leu Leu Asn Pro  
                   115                                  120                                  125

Pro Ala Asn Ala Ser  
                   130

<210> 8

<211> 130

<212> PRT

<213> Adenovirus

<400> 8

Met Ser Xaa Xaa Xaa Phe Xaa Gly Xaa Ile Xaa Ser Pro Tyr Leu Thr  
                   1                                  5                                  10                                  15

Thr Arg Leu Pro Xaa Trp Ala Gly Val Arg Gln Asn Val Xaa Gly Ser  
                                   20                                  25                                  30

Asn Xaa Asp Gly Arg Pro Val Leu Pro Ala Asn Ser Xaa Thr Leu Thr  
                   35                                  40                                  45

Tyr Glu Thr Val Gly Xaa Xaa Xaa Xaa Thr Ala Ala Ala Ala Ala Ala  
                   50                                  55                                  60

Ser Ala Ala Ala Xaa Thr Ala Arg Gly Xaa Xaa Xaa Asp Phe Xaa Xaa  
                   65                                  70                                  75                                  80

Xaa Xaa Xaa Leu Ala Xaa Ser Xaa Xaa Xaa Arg Xaa Xaa Xaa Xaa Glu  
                                   85                                  90                                  95

Asp Xaa Leu Xaa Xaa Leu Leu Ala Xaa Leu Xaa Xaa Leu Xaa Xaa Xaa  
                   100                                  105                                  110

Leu Xaa Xaa Xaa Ser Gln Xaa Xaa Leu Xaa Xaa Xaa Xaa Pro Xaa Asn  
                   115                                  120                                  125

Xaa Val  
                   130

<210> 9

<211> 130

<212> PRT

<213> Adenovirus

<400> 9

Met Ser Gly Asn Ser Phe Asp Gly Gly Ile Phe Ser Pro Tyr Leu Thr  
1 5 10 15

Thr Arg Leu Pro Lys Trp Ala Gly Val Arg Gln Asn Val Met Gly Ser  
20 25 30

Asn Val Asp Gly Arg Pro Val Leu Pro Ala Asn Ser Thr Thr Leu Thr  
35 40 45

Tyr Glu Thr Val Gly Gly Ser Leu Asp Thr Ala Ala Ala Ala Ala Ala  
50 55 60

Ser Ala Ala Ala Ser Thr Ala Arg Gly Met Ala Ala Asp Phe Gly Phe  
65 70 75 80

Tyr Asn Leu Leu Ala Ser Ser Ala Gly Gly Arg Ser Ser Ala Arg Glu  
85 90 95

Asp Ala Leu Thr Val Leu Leu Ala Thr Leu Glu Ser Leu Thr Thr Gln  
100 105 110

Leu Ala Ala Val Ser Gln Ala Ala Leu Val Gly Gly Ser Pro Pro Asn  
115 120 125

Ala Val  
130

<210> 10

<211> 498

<212> DNA

<213> Adenovirus

<400> 10

atgtctagat acccctacga cgtgcccgcac tacgccgggtt ctggctcagg ctccgggttca 60  
ggttcgggat ctactagaag caccaactcg tttgatggaa gcattgtgag ctcatatttg 120  
acaacgcgca tgcccccatg ggccgggggtg cgtcagaatg tgatgggctc cagcattgat 180  
ggtcgccccg tctgccccgc aaactctact accttgacct acgagaccgt gtctggaacg 240  
ccggttgaga ctgcagcctc cgcgcgcgtc tcagccgctg cagccaccgc ccgcgggatt 300  
gtgactgact ttgctttcct gagcccgcctt gcaagcagtg cagcttcccg ttcattccgc 360  
cgcatgaca agttgacggc tcttttgcca caattggatt ctttgaccgc ggaacttaat 420  
gtcgtttctc agcagctgtt ggatctgcgc cagcagggtt ctgccctgaa ggcttccctc 480  
cctcccaatg cggtttaa 498

<210> 11

<211> 165

<212> PRT

<213> Adenovirus

<400> 11

Met Ser Arg Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Gly Ser Gly Ser  
1 5 10 15

Gly Ser Gly Ser Gly Ser Gly Ser Thr Arg Ser Thr Asn Ser Phe Asp  
20 25 30

Gly Ser Ile Val Ser Ser Tyr Leu Thr Thr Arg Met Pro Pro Trp Ala  
 35 40 45

Gly Val Arg Gln Asn Val Met Gly Ser Ser Ile Asp Gly Arg Pro Val  
 50 55 60

Leu Pro Ala Asn Ser Thr Thr Leu Thr Tyr Glu Thr Val Ser Gly Thr  
 65 70 75 80

Pro Leu Glu Thr Ala Ala Ser Ala Ala Ala Ser Ala Ala Ala Thr  
 85 90 95

Ala Arg Gly Ile Val Thr Asp Phe Ala Phe Leu Ser Pro Leu Ala Ser  
 100 105 110

Ser Ala Ala Ser Arg Ser Ser Ala Arg Asp Asp Lys Leu Thr Ala Leu  
 115 120 125

Leu Ala Gln Leu Asp Ser Leu Thr Arg Glu Leu Asn Val Val Ser Gln  
 130 135 140

Gln Leu Leu Asp Leu Arg Gln Gln Val Ser Ala Leu Lys Ala Ser Ser  
 145 150 155 160

Pro Pro Asn Ala Val  
 165

<210> 12

<211> 495

<212> DNA

<213> Adenovirus

<400> 12

atgagcacca actcgtttga tgggaagcatt gtgagctcat atttgacaac gcgcatgccc 60  
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 cccgcaaact ctactacctt gacctacgag accgtgtctg gaacgccggt ggagactgca 180  
 gcttcgccc cgcttcagc cgtgcagcc accgcccgcg ggattgtgac tgactttgct 240  
 ttcttgagcc cgcttgcaag cagtgcagct tcccgttcat ccgcccgcga tgacaagttg 300  
 acggctcttt tggcacaatt ggattctttg acccggggaac ttaatgtcgt ttctcagcag 360  
 ctgttgatc tgcgccagca ggtttctgcc ctgaaggctt cctcccctcc caatgcgggt 420  
 tctagtgggt ctggctcagg ctccggttca ggttcgggat cttaccctta cgacgtgccc 480  
 gactacgcct ctaga 495

<210> 13

<211> 165

<212> PRT

<213> Adenovirus

<400> 13

Met Ser Thr Asn Ser Phe Asp Gly Ser Ile Val Ser Ser Tyr Leu Thr  
 1 5 10 15

Thr Arg Met Pro Pro Trp Ala Gly Val Arg Gln Asn Val Met Gly Ser  
 20 25 30

Ser Ile Asp Gly Arg Pro Val Leu Pro Ala Asn Ser Thr Thr Leu Thr  
35 40 45

Tyr Glu Thr Val Ser Gly Thr Pro Leu Glu Thr Ala Ala Ser Ala Ala  
50 55 60

Ala Ser Ala Ala Ala Ala Thr Ala Arg Gly Ile Val Thr Asp Phe Ala  
65 70 75 80

Phe Leu Ser Pro Leu Ala Ser Ser Ala Ala Ser Arg Ser Ser Ala Arg  
85 90 95

Asp Asp Lys Leu Thr Ala Leu Leu Ala Gln Leu Asp Ser Leu Thr Arg  
100 105 110

Glu Leu Asn Val Val Ser Gln Gln Leu Leu Asp Leu Arg Gln Gln Val  
115 120 125

Ser Ala Leu Lys Ala Ser Ser Pro Pro Asn Ala Val Ser Ser Gly Ser  
130 135 140

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Tyr Pro Tyr Asp Val Pro  
145 150 155 160

Asp Tyr Ala Ser Arg  
165